

CLAIMS

1. A transmission amplifier for amplifying a signal to be transmitted, characterized by comprising:

an amplifying unit that amplifies the signal;

temperature detecting means that detects temperature;

and

amplifying-unit-self-heating-facilitation control means that performs control for facilitating self-heating by the amplifying unit when temperature detected by the temperature detecting means is lower than a predetermined threshold value or equal to or lower than the predetermined threshold value.

2. A transmission amplifier according to claim 1, characterized in that the amplifying-unit-self-heating-facilitation control means performs bias control for the amplifying unit as the control for facilitating self-heating by the amplifying unit.

3. A transmission amplifier according to claim 1 or 2, characterized in that

a predetermined first threshold value is provided concerning temperature and a predetermined second threshold value, which is low compared with the first threshold value, is provided, and

the amplifying-unit-self-heating-facilitation control means performs the control for facilitating self-heating by

the amplifying unit when temperature detected by the temperature detecting means is lower than the second threshold value or equal to or lower than the second threshold value and stops the control for facilitating self-heating by the amplifying unit when temperature detected by the temperature detecting means exceeds the first threshold value or rises to be equal to or higher than the first threshold value.

4. A transmission amplifier according to any one of claims 1 to 3, characterized in that

the amplifying unit is constituted by using plural amplifying elements, and

the amplifying-unit-self-heating-facilitation control means performs bias control for the plural amplifying elements as the control for facilitating self-heating by the amplifying unit.

5. A transmission amplifier according to any one of claims 1 to 4, characterized by comprising amplifying-unit-self-heating-control-time-signal attenuating means that attenuates a signal to be amplified by the amplifying unit when the control for facilitating self-heating by the amplifying unit is performed by the amplifying-unit-self-heating-facilitation control means.